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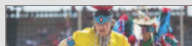
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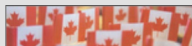
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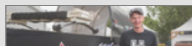
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New technology could help reduce bedsores in hospitals



W21C researchers conduct trial of mattress overlay system that provides visual, easy-to-understand pressure images

May 11, 2015



Dr. Chester Ho, right, demonstrates how the XSENSOR technology works, with Dr. Bill Ghali, centre, and Clay Richardson, left, who himself has experienced severe bed sores. Photo by Bruce Perrault, University of Calgary

Researchers at the University of Calgary's Ward of the 21st Century (W21C) are conducting a trial of a new technology designed to help reduce the risk of pressure ulcers — also known as bedsores — in hospital patients.

The randomized controlled trial, conducted at Foothills Medical Centre, will examine the effectiveness of XSENSOR's ForeSite PT Patient Turn System, a thin flexible mattress overlay that goes underneath the sheet on a patient's bed. The device monitors, records, and analyzes persistent body surface pressures — a key factor in the risk of developing pressure ulcers — and provides this information on a display above the bedside. This new technology was designed to help health-care providers know if and when a patient needs to be turned.

"Pressure ulcers can cause pain, decrease quality of life, and lead to significant complications and prolonged hospital stays," says Dr. Chester Ho, co-lead for the study, associate professor in the Cumming School of Medicine, and section head of Physical Medicine and Rehabilitation in the Department of Clinical Neurosciences, University of Calgary and Alberta Health Services. "The device will allow us to compare the effectiveness of this new system in relieving pressure and preventing pressure ulcers."

Pressure ulcers are one of the most common complications in hospital, and can cost the health system millions each year. They are caused by continued compression of skin by the weight of the individual. This impairs blood circulation, which in turn damages the skin's integrity and results in a chronic wound. Pressure ulcers are most common among individuals who are immobile and spend extended periods of time in the same position.

Technology now being evaluated in five hospital wards

W21C is now conducting an independent evaluation of the technology in five different hospital wards at the Foothills Medical Centre. More than 200 nurses and other hospital staff at Alberta Health Services have been trained to use the new system, and W21C researchers aim to 670 patients in the study.

"The ForeSite PT system provides visual, easy-to-understand pressure images by identifying areas that are experiencing elevated pressures," says Dr. William Ghali, a professor in the Cumming School of Medicine, co-lead for the W21C Program and scientific director for the O'Brien Institute for Public Health, and one of the lead investigators for the study.

"This technology could provide clinicians and other health-care providers with the information they need to strategically shift patients when and where needed, and minimize those pressures before ulcers develop."

This research receives support through a Collaborative Research and Innovation Opportunities (CRIO) team grant from Alberta Innovates Health Solutions (AI-HS).



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